Electric utilities' system relies on sound planning, decision-making

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FOR THE TRIBUNE

Fifty years ago, we could build a power plant or high-voltage transmission line almost anywhere in Arizona, and few would notice. How times have changed.

With nearly 9,000 people moving to the Valley of the Sun each month, our two electric utilities, Arizona Public Service Co. and Salt River Project, are faced with a daunting challenge: Bringing new sources of reliable yet affordable power to meet ever-increasing demand. How to place those power plants and lines — when few homeowners want them nearby — makes this challenge more complicated.

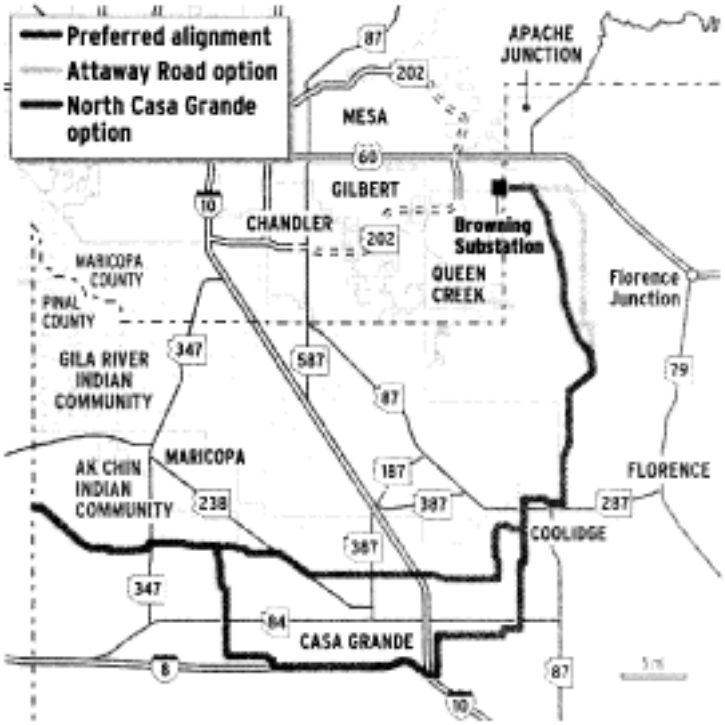
New communities are springing up everywhere, and homes are bigger than ever. Residents are using more and more electronic devices in their homes (including multiple computers, big-screen TVs, DVD players and sophisticated outdoor lighting), all of which place higher demands on our electric utilities. Schools, office buildings, malls and churches are also needed to serve these new residents.

The Valley is what the utility industry calls a "load pocket," which is a well-defined region where the demand for electricity is high. Supplying the "load pocket" requires a combination of power plants located within the pocket and high-voltage transmission lines to bring electricity from remote power plants.

SEE **POWER** • PAGE F4

Proposed new power line

Preferred and alternate routes for a new power line that will bring electricity from the Palo Verde nuclear plant and other generating plants west of Phoenix to the Browning Substation in east Mesa:



SOURCE: Salt River Project

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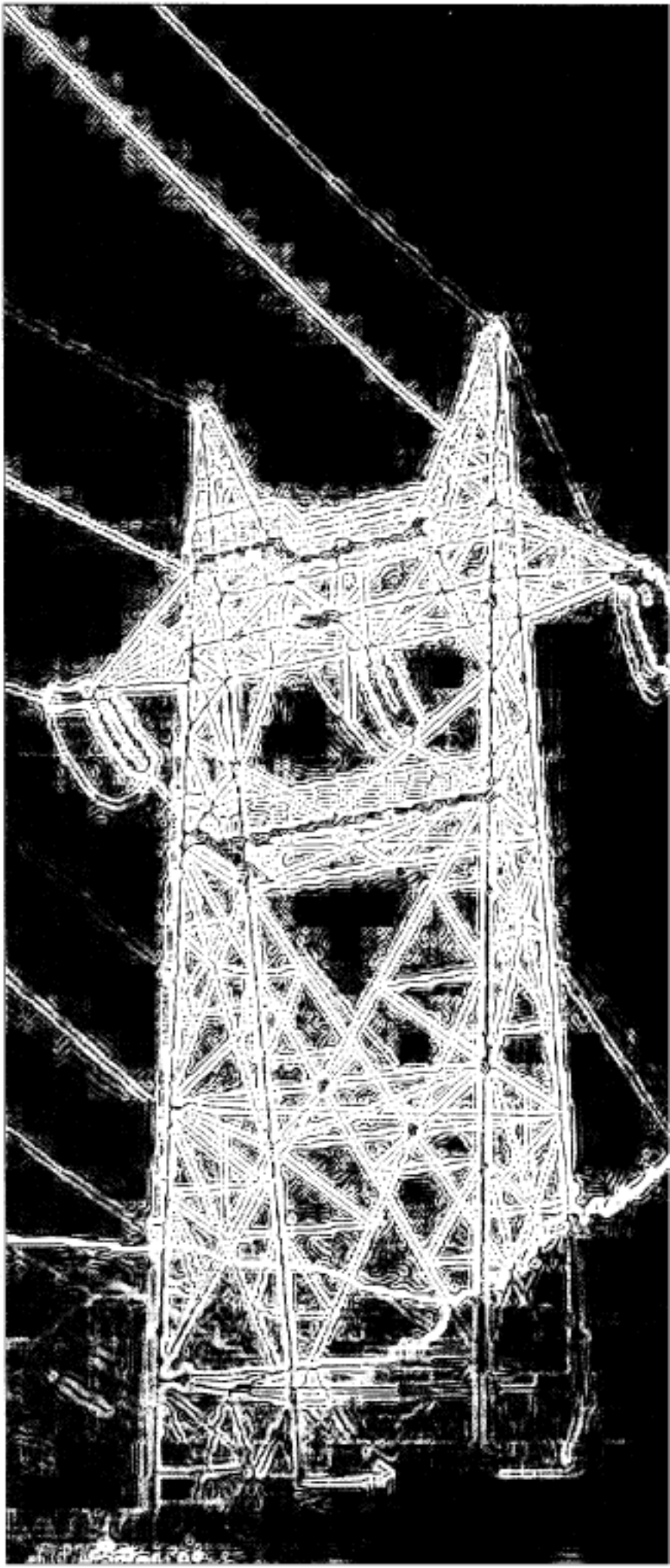

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FROM PAGE F1

Building our electric infrastructure is time-consuming and costly. Utilities are required to submit their 10-year infrastructure plans to the state utility regulators, the Arizona Corporation Commission. For the construction of facilities, utilities need to obtain approvals from a host of federal, state, county and local governments. The cost of new facilities typically runs in the tens, even hundreds, of millions of dollars.

FORECASTING POWER NEEDS

Coordination among the ACC and the state's electric utilities is critical. In forecasting our power needs, Arizona's utilities watch for changes in weather, power use, construction and population growth within their service territories. APS, SRP, independent power plants, the ACC and large power users engage in regular discussions aimed at assessing Arizona's power needs. With utility industry involvement, the ACC prepares a biennial report that forecasts the state's transmission needs.

To satisfy our increasing thirst for electricity, APS and SRP currently must add 400 megawatts of new power generation annually. That's enough power to light and cool homes for 300,000 people. Our total power needs are planned and constructed so that we can have enough reliable power to live comfortably on a hot, humid July day.

LONG-TERM PLANNING

Ten years may seem a long way off, but many factors go into the planning process for infrastructure. The utilities consider the following: Design, engineering, public input, permitting, financing, land acquisition, environmental impact assessment and construction time. The process is arduous. If plants and lines are not built in a timely manner, we risk the possibility of inadequate and unreliable service and the potential for blackouts like those experienced in California and the Northeast.

PUBLIC INVOLVEMENT

Nowadays, in order to get buy-off for the project, a utility must convince the public of the project's worth and show how it will protect the environment. Before ever filing an application for a proposed power plant or line, the utility performs extensive environmental impact studies and public outreach. Public participation is welcomed and encouraged. Information is mailed to affected people in the area on the proposed routes. Large signs announcing the proposed project are posted in the area. And public meetings are held to discuss the potential routes.

THE SITING PROCESS

Arizona's process attempts to reconcile the needs of the electric utilities with the concerns of the public. In 1971, the Arizona Legislature established the Arizona Power Plant and Transmission Line Siting Committee to provide a much-needed process for public involvement. The committee provides a single, independent forum to evaluate applications to build power plants and transmission lines in the state.

Any power plant larger than 100 megawatts, or any transmission project over 115 kilovolts, must be approved by the Siting Committee. The Siting Committee is composed of 11 members from several state agencies, including the Corporation Commission, and the public. The state attorney general or his designee chairs the committee meetings and makes procedural decisions in accordance with Arizona law. Each member has a vote.

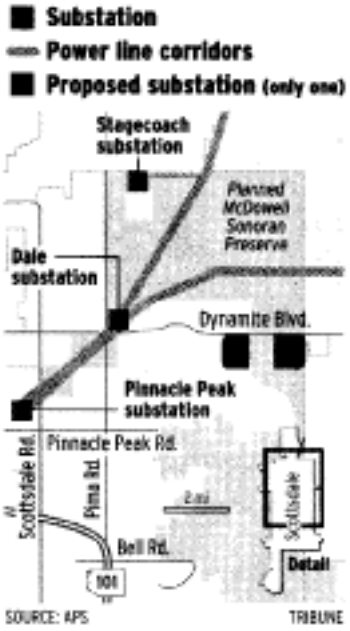
In the last four years, the committee has been busier than usual, acting on 23 cases. (Put in historical perspective, the committee has handled only 127 cases since its inception.) As a result of the increased workload, the current members have gained valuable expertise and considerable knowledge of the siting process.

I have seen the Siting Committee in action. I can attest to its openness and thoroughness. The members wade through piles of information from the applicant, affected residents and environmental groups. Committee members consider the need for the project, the costs for proposed routes or sites, air emissions standards and water use concerns, as well as the effect on the animal habitats, riparian areas and desert vistas. The breadth of issues is mind-boggling.

Decisions aren't made behind closed doors — all information is scrutinized and discussed by the committee at public hearings. Any person or group affected by the proposed line or power plant is encouraged to participate. The hearing includes testimony and cross-examination of the

Power plans

APS is proposing to build a new substation and power lines to serve the north Scottsdale area.



You Are Invited

The Northeast Valley Power Line and Substation Project is proposed by Arizona Public Service Co. to provide for the electricity needs of that growing area. APS will conduct two open-house events for interested residents:

- 5:30 to 7:30 p.m. April 18 at Pinnacle Presbyterian Church, 25150 N. Pima Road, Scottsdale.
- 5:30 to 7:30 p.m. April 19 at Pinnacle Peak High School, 3535 E. Mayo Blvd., Phoenix.

Additional information is available online at **http://siting.apsc.com/current/NortheastValley/default.htm.**

The Southeast Valley Transmission Project is proposed by Salt River Project to provide for the electricity needs of that growing area. The Arizona Corporation Commission will conduct a two-day public hearing this week for interested residents:

- 9:30 a.m. Thursday and Friday at San Marcos Resort & Conference Center, 1 San Marcos Place, Chandler.

Additional information is available online at **www.azpower.org/pwsevbob/default.asp.**

applicant and any groups or individuals who are granted party, or intervener, status.

After all the information is aired, the committee members will vote on whether to grant a certificate of environmental compatibility (CEC), which is a formal document that is necessary before the power plant or transmission line can be built. The committee can approve the project as preferred by the applicant, modify the route to respond to public concerns or recommend alternative routes.

The Line Siting Committee then forwards the CEC to the Corporation Commission for review and additional deliberations. The commission is obligated to balance various competing factors, including the broad public interest, the need for adequate, economical and reliable power, and protecting the environment.

In recent years, the commission has approved the construction of 14 power plants and a number of major transmission projects. In the course of those approvals for power plants, the commission has required power projects to comply with the most stringent air emissions and water use restrictions in the nation. Based on the Siting Committee's sound recommendations, the commission has approved the routes for transmission lines that produce the least harm to the environment while accommodating the interests of community groups.

BALANCING PUBLIC CONCERNS, POWER NEEDS

Since people don't want power plants in their neighborhoods, high-voltage lines are built to import power from remote locations around the state. Utilities may also build high-voltage lines to more efficiently and effectively route power through the "load pocket." To work properly and reliably, the power grid — the interconnected lines and power plants — must have multiple pathways so power can shift and flow to the areas that need it. This configuration helps avoid blackouts if a transmission or generation problem crops up in one part of the grid.

For example, if all of Scottsdale's power came only from power plants or transmission lines there, the city could be at risk if some kind of emergency or a storm occurred that affected the area. Good planning and sound investments in transmission infrastructure have paid dividends to customers. The lights stayed on last summer during and after the West Wing transformer fire, even though 20 percent to 30 percent of the Valley's import capacity of electricity was knocked out.

MAKING THE PROCESS EASIER

In the future, local jurisdictions should work together to include contiguous utility corridors in their general plans. Typically, land developers don't want to incorporate transmission corridors in their planning — preferring instead to push the lines to the perimeter or arterial roadways, or to ignore them altogether. As the Valley continues to grow, the need for urban planning and utility corridor planning will become more acute and pressing.

Advances in the design of transmission towers and special coatings on the wires help reduce the visual impact. The Valley has a few examples where utility corridors and recreational open space are successfully integrated. People often ask why the power lines aren't just buried. Undergrounding is sometimes possible but extremely expensive — as much as four times the cost. These costs fall on those people living along the route. In addition to increased cost, undergrounding presents some serious reliability, maintenance and environmental concerns. The decision to bury power lines should weigh the public's concerns against these very real considerations.

Public involvement in the siting process, sound planning by the utilities and prudent decision-making by the Siting Committee and the Corporation Commission is the best way to ensure that the electricity we depend on is there when we need it.

Jeff Hatch-Miller is chairman of the Arizona Corporation Commission.